WHAT IS CLAIMED IS:

1. A halogenated polymer of vinyl aromatic monomers comprising styrene and divinylbenzene for use in a chromatographic separation method of analytes, wherein said polymer further comprises a hydrocarbyl or halocarbyl substituent comprising from 1 to 1,000,000 carbon atoms, or combinations thereof.

2. The halogenated polymer of claim 1, wherein said halogenated polymer provides increased adsorption of more hydrophobic analytes relative to the adsorption of less hydrophobic analytes.

3. The halogenated polymer of claim 1, wherein said halocarbyl substituent is fluorocarbyl.

4. The halogenated polymer of claim 3, wherein said fluorocarbyl substituent is perfluorocarbyl and comprises from 1 to 100 carbon atoms.

5. The halogenated polymer of claim 4, wherein the fluorocarbyl substituent is heptadecafluorooctyl or pentafluorobenzyl.

6. The halogenated polymer of claim 1, wherein the vinyl aromatic monomers are halogenated.

7. The halogenated polymer of claim 6, wherein the vinyl aromatic monomers are brominated.

9. The halogenated polymer of claim 6, wherein the polymer is substituted with hydrocarbyl substituents comprising from 1 to 100 carbon atoms.

10. The halogenated polymer of claim 1, wherein the analytes are selected from nucleic acids, peptides, carbohydrates, lipids, synthetic compounds, compounds from a combinatorial library or combinations thereof.

11. The halogenated polymer of claim 2, wherein the more hydrophobic analytes comprise a hydrophobic moiety selected from a fluorescent label, a quenching agent, a dye, a lipid, a

hydrophobic peptide, a hydrophobic drug, a vitamin, a protecting group, a fluorinated moiety, a hapten, or mixtures thereof.

12. The halogenated polymer of claim 11, wherein the more hydrophobic analytes are nucleic acids having a modified phosphate backbone.

13. The halogenated polymer of claim 11, wherein the hydrophobic analytes are phosphite triester or peptide linked oligonucleotides, tritylated oligonucleotides, oligonucleotides labeled with amine linked dyes, biotinylated oligonucleotides, or cholesterylated oligonucleotides.

14. The halogenated polymer of claim 11, wherein the protecting group is a 4,4'-dimethoxytrityl, 4-monomethoxytrityl or any other hydroxyl protecting group stable to oligonucleotide synthesis conditions.

15. The halogenated polymer of claim 11, wherein the hydrophobic moiety is cleavable from the analyte by acid, base, enzymatic action, oxidation, reduction, or light.

16. The halogenated polymer of claim 1, wherein said chromatographic separation method is selected from ion pair reverse phase chromatography, high performance liquid chromatography, cartridge purification, gel chromatography, thin layer chromatography or microfluidics applications incorporating a chromatographic component.

17. A polymer bead comprising vinyl aromatic monomers functionalized by fluorocarbylation for separating compounds.

18. The polymer bead of claim 17, wherein said functionalized polymer bead exhibits improved retention of compounds comprising a hydrophobic moiety relative to the adsorption of compounds lacking said hydrophobic moiety.

19. The polymer bead of claim 17, wherein the fluorocarbylation is the covalent attachment of a fluorocarbyl radical comprising from 1 to 100 carbon atoms.

20. The polymer of claim 19, wherein the fluorocarbyl radical is a perfluorocarbyl radical.

21. The polymer bead of claim 20, wherein the perfluorocarbyl radical is heptadecafluorooctyl or pentafluorobenzyl.

22. The polymer bead of claim 17, wherein the compounds to be separated are selected from nucleic acids, peptides, carbohydrates, lipids, synthetic compounds, compounds from a combinatorial library or combinations thereof.

23. The polymer bead of claim 18, wherein the hydrophobic moiety is selected from a fluorescent label, a quenching agent, a dye, a lipid, a hydrophobic peptide, a hydrophobic drug, a vitamin, a protecting group, a fluorinated moiety, a hapten, or mixtures thereof.

24. The polymer bead of claim 18, wherein the compounds comprising a hydrophobic moiety are nucleic acids having a modified phosphate backbone.

25. The polymer bead of claim 23, wherein the protecting group is a 4,4'-dimethoxytrityl, 4-monomethoxytrityl or any other hydroxyl protecting group stable to oligonucleotide synthesis conditions.

26. A functionalized polymer bead comprising vinyl aromatic monomers for separating compounds, wherein the vinyl aromatic monomers are substituted with hydrocarbyl moieties having from 1 to 1,000,000 carbon atoms, and wherein said polymer bead is functionalized by halogenation of the aromatic monomers.

27. The functionalized polymer bead of claim 26, wherein said hydrocarbyl moieties comprise from 1 to 100 carbon atoms.

28. The functionalized polymer bead of claim 26, wherein said polymer bead is functionalized by bromination of the aromatic monomers.

29. The functionalized polymer bead of claim 26, wherein said functionalized polymer bead comprises brominated poly(styrene divinylbenzene) having hydrocarbyl substituents comprising 6 to 20 carbon atoms.

30. The polymer bead of claim 26, wherein the compounds to be separated further comprise a moiety selected from a fluorescent label, a quenching agent, a dye, a lipid, a hydrophobic peptide, a hydrophobic drug, a vitamin, a protecting group, a fluorinated moiety, a hapten, or mixtures thereof.

31. A method of separating a mixture of analytes, comprising

(1) applying the mixture of analytes to a chromatography sorbent comprising polymer beads of aromatic vinyl monomers substituted with hydrocarbyl or halocarbyl substituents, or combinations thereof, comprising from 1 to 1,000,000 carbon atoms, wherein said aromatic vinyl monomers or said hydrocarbyl substituents or both have been functionalized by halogenation; and

(2) removing polar analytes from the chromatography sorbent by a hydrophilic solvent wash.

32. The method of claim 31, wherein the halocarbyl substituent is a fluorocarbyl radical comprising from 1 to 100 carbons.

33. The method of claim 31, wherein said aromatic vinyl monomers are functionalized by bromination.

34. The method of claim 31, further comprising:

(3) eluting nonpolar analytes from the chromatography sorbent with a hydrophobic solvent wash.

35. The method of claim 31, further comprising:

(4) performing a cleavage step on the chromatography sorbent; and

(5) eluting additional analytes from the chromatography sorbent.

36. The method of claim 35, wherein the cleavage step is performed by treating the chromatography sorbent with acid, base, enzymes, chemical cleavage agents, or light.

37. The method of claim 31, wherein at least one of the analytes comprises a hydrophobic moiety selected from a protecting group, a fluorescent label, an amine linked dye, a quenching

agent, a lipid, a hapten, a fluorinated moiety, biotin, a hydrophobic peptide, a hydrophobic drug, or mixtures thereof.

38. The method of claim 37, wherein the hydrophobic moiety is cleavable from the analyte.

39. A chromatographic method for separating labeled nucleic acids from unlabeled nucleic acids comprising:

(1) contacting a solution comprising labeled and unlabeled nucleic acids with a chromatography sorbent comprising a halogenated polymer of aromatic vinyl monomers comprising styrene and divinylbenzene substituted with hydrocarbyl or halocarbyl substituents, or combinations thereof, comprising from 1 to 1,000,000 carbon atoms, wherein said vinyl aromatic monomers or said hydrocarbyl substituents or both have been functionalized by halogenation; and

(2) eluting unlabeled nucleic acids from the chromatography sorbent with a solvent wash.

40. The chromatographic separation method of claim 39, wherein said vinyl aromatic monomers are brominated.

41. The chromatographic separation method of claim 39, wherein said halocarbyl substituent is fluorocarbyl.

42. The chromatographic separation method of claim 39, further comprising:

(3) eluting labeled nucleic acids from the chromatography sorbent with a hydrophobic solvent wash.

43. The chromatographic separation method of claim 39, further comprising:

(3) treating the chromatography sorbent with a cleavage agent; and

(4) eluting additional nucleic acids from the chromatography sorbent.

44. The chromatographic separation method of claim 43, wherein the cleavage agent is selected from the group consisting of acid, base, enzymes, chemical cleavage agents and light.

45. The chromatographic separation method of claim 39, wherein the labeled nucleic acids comprise a hydrophobic moiety selected from a protecting group, a fluorescent label, an amine linked dye, a quenching agent, a lipid, a hapten, a fluorinated moiety, biotin, a modified phosphate backbone, a hydrophobic peptide, a hydrophobic drug, or mixtures thereof.

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46. The chromatographic separation method of claim 45, wherein the protecting group is stable to oligonucleotide synthesis conditions and unstable in the presence of acid.